APPENDIX 3

STATEMENT OF WORK FOR REMEDIAL DESIGN
NEW CASSEL/HICKSVILLE GROUNDWATER CONTAMINATION SUPERFUND SITE
NASSAU COUNTY, NEW YORK

Operable Unit 1

I. WORK TO BE PERFORMED

As set forth in the Environmental Protection Agency's ("EPA") Record of Decision ("ROD") for the New Cassel/Hicksville Ground Water Contamination Site (Site) issued September 30, 2013, the objectives of the work (hereinafter "Work," as defined in Section III of the Administrative Order for Remedial Design ("RD"), ("Order") for Performance of the RD for operable unit 1 ("OU1") of the Site are to:

- Prevent or minimize current and potential future human exposure (via ingestion, dermal contact, and inhalation) to volatile organic compounds ("VOCs") in groundwater at concentrations in excess of federal maximum contaminant levels ("MCLs") and state standards;
- Minimize the potential for further migration of groundwater with VOC contaminant concentrations greater than federal MCLs and state standards; and
- Restore the impacted aquifer to its most beneficial use as a source of drinking water by reducing contaminant levels to the federal MCLs and state standards.

These objectives shall be furthered through design of the remedy selected in the ROD, attached as Appendix 4 to the Order. Respondents to the Order shall finance and perform the Work in accordance with the Order, the ROD, and this OU1 RD Statement of Work ("OU1 SOW"), including all terms, conditions and schedules set forth herein or developed and approved hereunder.

The RD will consist of all activities necessary to complete pre-design investigation studies and, the design of the major components of the remedy selected in the ROD. The remedy includes, but is not limited to, the following components:

- A combination of (a) in-situ treatment of groundwater via in-well vapor stripping and (b) extraction of groundwater via pumping and ex-situ treatment of extracted groundwater prior to discharge to a publicly owned treatment works or reinjection to groundwater (to be determined during design). The purpose is to establish containment and effectuate removal of contaminant mass where concentrations of total volatile organic compound concentrations are greater than 100 micrograms per liter ("µg/L");

- In-situ chemical treatment, such as in-situ chemical oxidation, to target high concentration contaminant areas, as appropriate;

- Implementation of long-term monitoring to track and monitor changes in groundwater contamination in OU1 to ensure the remedial action objectives are attained;

- Development of a Site Management Plan to ensure proper management of the remedy post-construction. The Site Management Plan will include provisions for any operation and maintenance and long-term monitoring required for the remedy, as well as periodic certifications; and

- Institutional controls consisting of any existing local requirements that prevent installation of drinking water wells, and informational devices to limit exposure to contaminated groundwater.

The RD shall be conducted in a manner that minimizes environmental impacts in accordance with EPA Region 2 Clean and Green Policy (available at: www.epa.gov/region02/superfund/green_remediation/policy.html) to the extent consistent with the National Contingency Plan ("NCP"), 40 CFR Part 300.

II. PERFORMANCE STANDARDS

The RD shall be prepared to achieve compliance with the Performance Standards, which shall include and be consistent with the requirements set forth in the ROD including the Remedial Action Objectives. The RD shall also be prepared such that the remedy will achieve compliance with all legally applicable and relevant and appropriate requirements ("ARARs") as set forth in the ROD.

III. PROGRESS REPORTS AND MEETINGS

In addition to the other deliverables set forth in the Order, Respondents shall provide one coordinated, combined, comprehensive, and cohesive written monthly progress report and participate in meetings with EPA at major milestones in the design process. Monthly progress reports shall be submitted on or before the 15th day of each month following the Effective Date of the Order.

Respondents' obligation to submit progress reports continue until EPA gives Respondents written notice pursuant to Section XXI of the Order that all of the Work Elements, as that term is defined in the Order, have been carried out in accordance with the Order. At a minimum, these progress reports shall include the following:

1. A description of all actions for each Work Element, identifying the Work Element, which have been taken toward achieving compliance with the Order during the prior month;

2. A description of any violations of the Order and other problems encountered during the prior month;

3. A description of all corrective actions taken in response to any violations or problems which occurred during the prior month;

4. A summary of the results of all sampling, test results and other data received or generated by Respondents during the course of implementing a Work Element, broken out by Work Element, during the prior month. Such results shall be validated in accordance with the approved Quality Assurance Project Plan ("QAPP") developed in conformity with Section X.1. below. Also identify all plans, reports, and other deliverables required by the Order completed and submitted during the previous month in addition to correspondence and/or comments Respondents received from EPA;

5. A description of any modifications to the work plans or other schedules that Relevant Respondents, as that term is defined in the Order, have proposed to EPA or that have been approved by EPA for a particular Work Element and a description of all plans, actions, and data scheduled for the next eight weeks, identifying the Work Element. Also a description of all activities undertaken in support of the Community Relations Plan (if requested by EPA) during the previous month and those to be undertaken in the next eight weeks, if requested by EPA;

6. An estimate of the percentage of the Work required by the Order for each Work Element which has been completed as of the date of the progress report; and

7. An identification of all delays encountered or anticipated that may affect the future schedule for performance of a Work Element, and all efforts made by Relevant Respondents to mitigate delays or anticipated delays.

IV. COMMUNITY RELATIONS

To the extent requested by EPA, Respondents shall provide information relating to the Work, as that term is defined in the Order, required hereunder for EPA's use in developing and implementing a Community Relations Plan. As requested by EPA, Respondents shall participate in the preparation of appropriate information disseminated to the public and participate in public meetings, which may be held or sponsored by EPA, to explain activities at or concerning the Site.

V. PRE-DESIGN INVESTIGATION

A. Pre-Design Investigation Activities

The Pre-Design Investigation activities shall be conducted by Relevant Respondents to gather sufficient information necessary to fully develop the RD for OU1 at the Site. In addition to the requirements identified in Section X, below, the Pre-Design Investigation activities to be performed in support of the RD include, but are not limited to the following:

1. With respect to Work Element 1, as that term is defined in the Order, Relevant Respondents shall :

a. Review existing OU1 groundwater data to identify possible data gaps or areas where data may require updating. These data include, but are not limited to, the results of previous OU1 groundwater and

soil gas sampling investigations, historical information about OU1, including aerial photographs and other available information. This review shall result in recommendations to address any identified data gaps;

b. Identify existing groundwater monitoring wells to be sampled as part of the long-term monitoring program. The long-term monitoring program may include installation and sampling of additional groundwater monitoring wells, if requested by EPA.

c. Develop and implement plan(s) which identify media to be sampled (e.g., groundwater, soil, soil gas) to address any identified data gaps, including installation of vertical profile borings, as necessary to support the design and construction of groundwater monitoring wells. Develop and implement a plan to collect additional rounds of groundwater sampling to support the RD Work and the long-term monitoring program, including monitored natural attenuation processes;

d. Investigate the hydrogeologic conditions present in the area to support development of the RD. This shall include, but may not be limited to the evaluation of aquifer properties including sampling and analysis to be conducted in support of an aquifer pump test, if requested by Relevant Respondents or determined necessary by EPA;

e. Conduct an in-situ chemical treatment pilot study(ies) for the use of in-situ chemical treatment as an element of the remedy and the development of protocols and monitoring requirements to ensure the treatment does not adversely affect nearby water supply wells; and

f. If requested by Relevant Respondents or determined necessary by EPA, conduct a treatability study(ies) for the extraction and treatment component of the remedy.

2. With respect to Work Element 2, as that term is defined in the Order, Relevant Respondents shall:

a. Review existing OU1 groundwater data to identify possible data gaps or areas where data may require updating. These data include, but are not limited to, the results of previous OU1 groundwater and soil gas sampling investigations, historical information about OU1, including aerial photographs and other available information. This review shall result in recommendations to address any identified data gaps;

b. Identify existing groundwater monitoring wells to be sampled as part of the long-term monitoring program. The long-term monitoring program may include installation and sampling of additional groundwater monitoring wells, if requested by EPA;

c. Develop and implement plan(s) which identify media to be sampled (e.g., groundwater, soil, soil gas) to address any identified data gaps, including installation of vertical profile borings, as necessary to support the design and construction of groundwater monitoring wells. Develop and implement a plan to collect additional rounds of groundwater sampling to support the RD Work and the long-term monitoring program, including monitored natural attenuation processes;

d. Investigate the hydrogeologic conditions present in the area to support development of the RD. This shall include, but not limited to the evaluation of aquifer properties including sampling and analysis to be conducted in support of an aquifer pump test, if requested by Relevant Respondents or determined necessary by EPA;

e. If requested by Relevant Respondents or determined necessary by EPA, an in-situ chemical treatment pilot study(ies) for the use of in-situ chemical treatment as an element of the remedy and the development of protocols and monitoring requirements to ensure the treatment does not adversely affect nearby water supply wells; and

f. Develop and implement pilot study(ies) for the remedy, including in-well vapor stripping and if requested by Relevant Respondents or determined necessary by EPA, treatability study(ies) for the extraction and treatment component of the remedy.

3. With respect to Work Element 3, as that term is defined in the Order, Relevant Respondents shall:

a. Review of existing OU1 groundwater data to identify possible data gaps or areas where data may require updating. These data include, but are not limited to, the results of previous OU1 groundwater and soil gas sampling investigations, historical information about OU1, including aerial photographs and other available information. This review shall result in recommendations to address any identified data gaps;

b. Identify existing groundwater monitoring wells to be sampled as part of the long-term monitoring program. The long-term monitoring program may include installation and sampling of additional groundwater monitoring wells, if requested by EPA;

c. Development and implement plan(s) which identify media to be sampled (e.g., groundwater, soil, soil gas) to address any identified data gaps, including installation of vertical profile borings, as necessary to support the design and construction of groundwater monitoring wells. Development and implementation of a plan to collect additional rounds of groundwater sampling to support the RD Work and the long-term monitoring program, including monitored natural attenuation processes;

d. Investigate the hydrogeologic conditions present in the area to support development of the RD. This shall include, but may not be limited to the evaluation of aquifer properties including sampling and analysis to be conducted in support of an aquifer pump test, if requested by Relevant Respondents or determined necessary by EPA;

e. If requested by Relevant Respondents or determined necessary by EPA, develop and implement an in-situ chemical treatment pilot study as an element of the remedy and the development of protocols and monitoring requirements to ensure the treatment does not adversely affect nearby public supply wells; and

f. Develop and implement pilot studies for the remedy, including in-well vapor stripping and if requested by Relevant Respondents or determined necessary by EPA, treatability study(ies) for the extraction and treatment component of the remedy.

4. With respect to Work Element 4, as that term is defined in the Order, Relevant Respondents shall:

a. Review of existing OU1 groundwater data to identify possible data gaps or areas where data may require updating. These data include, but are not limited to, the results of previous OU1 groundwater and soil gas sampling investigations, historical information about OU1, including aerial photographs and other available information. This review shall result in recommendations to address any identified data gaps;

b. Identify existing groundwater monitoring wells to be sampled as part of the long-term monitoring program. The long-term monitoring program may include installation and sampling of additional groundwater monitoring wells, if requested by EPA; and

c. Develop and implement plan(s) which identify media to be sampled (e.g., groundwater, soil, soil gas) to address any identified data gaps, including installation of vertical profile borings, as necessary to support the design and construction of groundwater monitoring

wells. Development and implementation of a plan to collect additional rounds of groundwater sampling to support the RD Work and the long-term monitoring program, including monitored natural attenuation processes.

5. With respect to the Work Element 5, as that term is defined in the Order, Relevant Respondents shall:

a. Review of existing OU1 groundwater data to identify possible data gaps or areas where data may require updating. These data include, but are not limited to, the results of previous OU1 groundwater and soil gas sampling investigations, historical information about OU1, including aerial photographs and other available information. This review shall result in recommendations to address any identified data gaps;

b. Develop and implement a plan to identify existing groundwater monitoring wells to be sampled as part of the long-term monitoring program. The long-term monitoring program may include installation and sampling of additional groundwater monitoring wells, if requested by EPA;

c. Develop and implement plan(s) which identify media to be sampled (e.g., groundwater, soil, soil gas) to address any identified data gaps, including installation of vertical profile borings, as necessary to support the design and construction of groundwater monitoring wells. Development and implementation of a plan to collect additional rounds of groundwater sampling to support the RD Work and the long-term monitoring program, including monitored natural attenuation processes.

B. Pre-Design Investigation Work Plan and Memorandum

Within sixty (60) days of the Effective Date of the Order, Respondents shall submit one coordinated, combined, comprehensive, and cohesive Pre-Design Investigation ("PDI") Work Plan and PDI Memorandum for the activities discussed in Section V.A above.

With respect to the Common Work Elements, as that term is defined in the Order, Respondents shall submit the following:

1. A PDI Work Plan that shall include the following:

a. The identification and summary (i.e., location, depth, and previous physical and chemical quality data) of existing groundwater monitoring wells and soil vapor data within OU1;

b. An evaluation and summary of existing data gaps related to groundwater quality and recommendations to address groundwater quality data gaps;

c. A description and summary of existing data gaps related to groundwater quality and recommendations to address groundwater quality data gaps;

d. A description of all pre-design activity sampling tasks for the collection of physical, chemical, monitored natural attenuation, and hydraulic parameters. Relevant Respondents shall identify the contaminants or parameters for which sampling will be conducted, the aerial extent, depths, numbers of samples, and locations to be collected for each Work Elements.

e. Identification of target locations for additional groundwater monitoring wells installations within OU1 to support the RD and the long-term monitoring plan. Relevant Respondents shall provide the proposed well locations, targeted total depth, screening interval(s) and well construction details for each proposed groundwater monitoring well for each Work Element;

f. For Work Elements 1, 2 and/or 3, the plan(s) to conduct studies (i.e., pilot and treatability) for in-situ chemical treatment, in-well vapor stripping, and extraction and treatment;

g. A schedule for all pre-design activities, which does not exceed eight (8) months; and

h. Descriptions of access and other approvals that Relevant Respondents will need in order to perform the PDI Work Plan activities under the Order. The description shall detail how such access and other approvals will be sought, and shall include a schedule for obtaining access and other approvals.

2. Within two (2) months of completion of the pre-design activities identified above in Section V.B.1 above, Respondents shall submit a PDI Memorandum to the EPA for review and EPA approval. The PDI Memorandum shall, at minimum, provide a narrative summary of investigations performed, summary of investigation results, summary of validated data including tables and graphics, data validation reports and laboratory data reports, narrative interpretation of data and results, results of statistical and modeling analyses, if requested by EPA, copies of field notes and log books identifying the Work element, photographs documenting the work conducted for each Work Element, conclusions, and recommendations for the RD Work Plan including design parameters and criteria. All data submitted to EPA shall be compiled in a database format or spreadsheet acceptable to EPA and shall show the location, medium and results for each sample. If requested by EPA, Respondents shall make all data available to EPA upon receipt from the lab (prior to validation).

VI. APPROVAL OF PRE-DESIGN DELIVERABLES

EPA will either approve each of the PDI deliverables identified in Section V or otherwise respond pursuant to Section VI.D. (Order – Plans and Reports Requiring EPA Approval) of the Order.

VII. REMEDIAL DESIGN ACTIVITIES

Relevant Respondents shall perform the RD related to the remedy selected in the ROD. The RD activities to be performed pursuant to and in accordance with this OU1 SOW, the Order and the ROD include, but are not limited to the following:

1. With respect to the Common Work Elements, as that term is defined in the Order, Respondents shall:

    a. Develop planning documents including but not limited to work plans, tasks, and schedules for conducting remedial design activities as necessary for the remedy. Tasks shall include a Preliminary RD Report (35% completion), a Preliminary RD Report (65% completion), a Pre-Final RD Report (95% completion), and a Final RD Report (100% completion) (collectively, RD Reports);

    b. Develop a Site Management Plan, which will include provisions for the construction, operation, and maintenance of all remedy components including provisions for long-term monitoring and periodic certifications, as applicable;

    c. Develop an Institutional Control Implementation Assurance Plan ("ICIAP") to assure institutional controls are implemented at OU1 of the Site such that they restrict the use of groundwater until Site-related contaminants in the aquifer are restored to the RAOs specified in the ROD. Respondents shall prepare an ICIAP which shall specify existing governmental and proposed informational institutional controls to insure that the remedy is protective. The ICIAP shall include, but shall not be limited to: (a) a description of the pathways for potential human exposure to hazardous substances that may remain during and/or after completion of construction of the remedial action; (b) a description of the proposed institutional controls and their purpose (i.e., letters to local government); (c) a description of the proposed duration of each institutional control and an explanation for such duration; (d) a schedule for implementing each institutional control; (e) a plan for monitoring, maintaining, and reporting on, the continued efficacy of the institutional controls, and (f) a schedule for annual certifications regarding whether the institutional controls remain in place, regarding whether the institutional controls have been complied with, and steps taken to address any problems with informational or

governmental controls, as applicable;

d. Incorporation of EPA's data into the RD if EPA conducts data collection;

e. Evaluation of the need for air monitoring during construction activities at the Site and if requested by EPA, development of plans to ensure that air emissions resulting from construction activities meet applicable or relevant and appropriate air emission requirements; and

f. Develop tasks to identify how the RD will be implemented using the principles specified in EPA Region 2's Clean and Green Policy (available at www.epa.gov/region2/superfund/green_remediation/policy.html).

2. With respect to Work Element 1, as that term is defined in the Order, Relevant Respondents shall:

a. Develop a detailed design of the components of the remedy (e.g., extraction and treatment, in-well vapor stripping, and in-situ chemical treatment) related to Work Element 1, described in Section I;

b. As determined necessary by EPA, Relevant Respondents shall:

i. Prepare an evaluation of either reinjection of treated groundwater and/or discharge of treated groundwater to a publically owned treatment works, as deemed necessary by EPA;

ii. Prepare an evaluation of and planning for the development and operation of a treatment building;

iii. Develop tasks to implement and monitor the effectiveness of in-situ chemical treatment, including the protocols and requirements to ensure treatment does not adversely impacts water supply wells, as deemed applicable by EPA;

c. Data collection for the evaluation of the soil vapor pathway in OU1, as necessary; and

d. Evaluation of the need for air monitoring during construction activities at the Site and if requested by EPA.

3. With respect to Work Element 2, as that term is defined in the Order, Relevant Respondents shall:

a. Develop a detailed design of the components of the remedy (e.g.,

extraction and treatment, in-well vapor stripping, and in-situ chemical treatment) related to Work Element 2, described in Section I;

b. As determined necessary by EPA, Relevant Respondents shall:

i. Prepare an evaluation of either reinjection of treated groundwater and/or discharge of treated groundwater to a publically owned treatment works, as deemed necessary by EPA;

ii. Prepare an evaluation of and planning for the development and operation of a treatment building;

iii. Develop tasks to implement and monitor the effectiveness of in-situ chemical treatment, including the protocols and requirements to ensure treatment does not adversely impacts water supply wells, as deemed applicable by EPA;

c. Data collection for the evaluation of the soil vapor pathway in OU1, as necessary; and

d. Evaluation of the need for air monitoring during construction activities at the Site and if requested by EPA.

4. With respect to Work Element 3, as that term is defined in the Order, Relevant Respondents shall:

a. Develop a detailed design of the components of the remedy (e.g., extraction and treatment, in-well vapor stripping, and in-situ chemical treatment) related to Work Element 3, described in Section I;

b. As determined necessary by EPA, Relevant Respondents shall:

i. Prepare an evaluation of either reinjection of treated groundwater and/or discharge of treated groundwater to a publically owned treatment works, as deemed necessary by EPA;

ii. Prepare an evaluation of and planning for the development and operation of a treatment building;

iii. Develop tasks to implement and monitor the effectiveness of in-situ chemical treatment, including the protocols and requirements to ensure treatment does not adversely impacts water supply wells, as deemed applicable by EPA;

c. Data collection for the evaluation of the soil vapor pathway in OU1, as necessary; and

d. Evaluation of the need for air monitoring during construction activities at the Site and if requested by EPA.

VIII. REMEDIAL DESIGN WORK PLAN

With respect to the Common Work Elements, as that term is defined in the Order, Respondents shall:

A. Within sixty (60) days after EPA's approval of the PDI Memorandum, Respondents shall submit to EPA one coordinated, combined, comprehensive, and cohesive work plan for the design of the Remedial Action at the Site (Remedial Design Work Plan ("RDWP")). The RDWP shall provide a detailed plan for the Common Work Elements and Work Elements 1, 2, and 3 as defined in the Order for the design of the remedy set forth in the ROD, in accordance with this OU1 SOW and for the achievement of the Performance Standards and other requirements set forth in the ROD, the Order, and this OU1 SOW.

B. The RD Work Plan shall also be prepared in accordance with CERCLA and relevant EPA guidance, including the EPA document entitled "Guidance on Oversight of Remedial Designs and Remedial Actions performed by Potentially Responsible Parties," (OSWER directive 9355.5-01, EPA/540/g-90-001), dated April 1990.

C. The RDWP shall include tasks, work plans, field work and data collection, and schedules for implementation of the RD, that are necessary to ensure compliance with performance standards, ARARs, or other requirements of the remedy selected in the ROD. The RDWP shall include, but not be limited to Section VII, Section X, and the following:

1. A project schedule, not to exceed thirty (30) months, for all activities covered by this OU1 SOW in the form of a task/subtask activity bar chat or critical path method sequence of events;

2. A description of all RD tasks, including submittal of a Preliminary RD (35% completion), Preliminary RD Report (65% completion), a Pre-Final RD Report (95% completion), and a Final RD Report (100% completion) (collectively "RD Reports");

3. A summary of all pre-design investigation activities;

4. An ICIAP, which specifies existing governmental and any proposed informational institutional controls for OU1. Plan for development of the ICIAP shall also be provided;

5. A plan for the performance of air monitoring, if requested by Relevant Respondents or determined necessary by EPA, during construction activities at the Site to ensure that air emissions resulting from the construction activities meet applicable or relevant and appropriate air emission requirements;

6. Descriptions of known access and other approvals that Respondents will need in order to perform the Work under the Order. This description shall detail how such

access and other approvals will be sought, and shall include a schedule for obtaining all necessary access and other approvals. This description shall be updated as appropriate, if subsequent approvals are required; and

7. The RD Work Plan shall also include a description of how the RD will incorporate the principles found in EPA Region 2's Clean and Green Policy (available at www.epa.gov/region2/superfund/green_remediation/policy.html).

IX. APPROVAL OF REMEDIAL DESIGN WORK PLAN

EPA will either approve the RD Work Plan or otherwise respond pursuant to Section VI.D. (Order – Plans and Reports Requiring EPA Approval) of the Order. Respondents shall implement the RDWP in accordance with the EPA-approved schedule.

X. ADDITIONAL WORK PLAN DELIVERABLES

With respect to the Common Work Elements, as that term is defined in the Order, the PDI Work Plan and the RDWP shall also include, a coordinated, combined, comprehensive, and cohesive submission of the following:

1. A QAPP, which shall be prepared consistent with the *Uniform Federal Policy for Quality Assurance Project Plans* ("UFP-QAPP"), Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005 or newer, and other guidance documents referenced in the aforementioned guidance documents sufficient to cover all Work Elements. The UFP documents may be found at: http://www2.epa.gov/fedfac/assuring-quality-federal-cleanups. In addition, the guidance and procedures located in the EPA Region 2 Quality Assurance web site: http://www.epa.gov/region02/qa/documents.htm, as well as other OSWER directives and EPA Region 2 policies should be followed, as appropriate.

   a. All sampling and analyses performed pursuant to this Order shall conform to EPA policy and guidance regarding sampling, quality assurance, quality control, data validation, and chain of custody procedures. Respondents shall incorporate these procedures into the QAPP in accordance with the *Uniform Federal Policy for Implementing Quality Systems* (UFP-QS), EPA-505-F-03-001, March 2005; *Uniform Federal Policy for Quality Assurance Project Plans* (UFP-QAPP), Parts 1, 2, and 3, EPA-505-B-04-900A, B, and C, March 2005 or newer; and other guidance documents referenced in the aforementioned guidance documents. Subsequent amendments to the above, upon notification by EPA to Respondents of such amendments, shall apply only to procedures conducted after such notification.

   b. The QAPP shall provide for collection of data sufficient to conduct all RD activities for all Work Elements including pre-design investigations, treatability studies, pilot testing, and periodic groundwater monitoring.

   c. The QAPP shall specifically include the following items:

i. An explanation of the way(s) the sampling, analysis, testing, and monitoring will produce data for the RD;

ii. A detailed description of the sampling, analysis, and testing to be performed, including sampling methods, analytical and testing methods, sampling locations and frequency of sampling to be implemented to sample and analyze the contaminants found in groundwater, air, and soil, if necessary;

iii. A description of how sampling data and a site base map will be submitted in a manner that is consistent with the Region 2 Electronic Data Deliverable (EDD) format (information available at www.epa.gov/region02/superfund/medd.htm);

iv. A map depicting sampling locations (to the extent that these can be defined when the QAPP is prepared); and

v. A schedule for performance of the specific tasks in subparagraphs (c)(i)-(iii) of this Section.

d. In the event that additional sampling locations, testing, and analyses are required or other alterations of the QAPP are required, Relevant Respondents shall submit to EPA a memorandum documenting the need for additional data within thirty (30) days of identification. EPA in its sole discretion will determine whether the additional data will be collected by Relevant Respondents and whether it will be incorporated into plans, reports and other deliverables.

e. In order to provide quality assurance and maintain quality control with respect to all samples to be collected, Respondents shall ensure the following:

i. Quality assurance and chain of custody procedures shall be performed in accordance with standard EPA protocol and guidance, including the guidance provided in the EPA Region 2 Quality Assurance website, http://www.epa.gov/region2/qa/;

ii. The laboratory(s) to be used must be specified in the QAPP. Any laboratory selected to provide analytical services shall be accredited by a national or state organization such as the National Environmental Laboratory Accreditation Program ("NELAP") or the American Association for Laboratory Accreditation ("A2LA"). Alternatively, if the laboratory participates in the EPA Contract Laboratory Program ("CLP"), this requirement will be considered as fulfilled. In addition, the laboratory should submit (or the

Relevant Respondent shall submit on behalf of the laboratory) to EPA current copies (within the past twelve months) of laboratory certification provided from either a State or Federal Agency which conducts certification. The certification shall be applicable to the matrix/analyses which are to be conducted;

iii. The laboratories utilized for analyses of samples must perform all analyses according to approved EPA methods or if requested by Relevant Respondents, and approved by EPA, an alternate method;

iv. Unless indicated otherwise in the approved QAPP, upon receipt from the laboratory, all data shall be validated;

v. Submission of the validation package (checklist, report and Form I's containing the final data) to EPA, prepared in accordance with the provisions of Subparagraph vi. below as part of the RD Report submittal;

vi. Respondents shall assure that all analytical data that are validated as required by the QAPP are validated according to the latest version of EPA Region 2 data validation Standard Operating Procedures. Region 2 Standard Operating Procedures are available at: http://www.epa.gov/region02/qa/documents.htm;

vii. Unless indicated otherwise in the QAPP, Respondents shall require deliverables equivalent to CLP data packages from the laboratory for analytical data. Upon EPA's request, Respondents shall submit to EPA the full documentation (including raw data) for this analytical data. EPA reserves the right to perform an independent data validation, data validation check, or qualification check on generated data; and

viii. Respondents shall insert a provision in their contract(s) with the laboratory utilized for analyses of samples that requires granting access to EPA personnel and authorized representatives of the EPA for the purpose of ensuring the accuracy of laboratory results related to the Site.

1. A Health and Safety Plan ("HSP"), which shall conform to 29 CFR §1910.120, "OSHA Hazardous Waste Operations Standards," and the EPA guidance document, "Standard Operating Safety Guidelines" (OSWER, 1988). EPA does not approve the HSP.

XI. REMEDIAL DESIGN

With respect to the Common Work Elements, as that term has been defined in the Order, Respondents shall:

A. Perform the RD activities in conformance with the RD Work Plans approved by EPA and within the time frames specified in the RD schedule contained therein identifying the Work Element.

B. The RD Reports shall be submitted to EPA in accordance with the schedule set forth in the EPA-approved RDWP. Each RD Report shall include a discussion of the design criteria and objectives, with emphasis on the capacity and ability to meet design objectives successfully for each Work Element. Each report shall also include the plans and specifications that have been developed at that point in time, along with a design analysis. The design analysis shall provide the rationale for the plans and specifications, including results of relevant sampling and testing performed, supporting calculations and documentation of how these plans and specifications will meet the requirements of the ROD for OU1 and shall provide a discussion of any impacts these findings may have on the RD. In addition to the above, the RD Reports shall include the following items:

1. Technical specifications for photographic documentation of the remedial construction work identifying the Work Element;

2. A discussion of the manner in which the Remedial Action ("RA") will achieve the Performance Standards;

3. A draft schedule for RA activities identifying the Work Element;

4. A preliminary Construction Quality Assurance Project Plan ("CQAPP");

5. A report describing those efforts made to secure access and obtain other approvals and the results of those efforts identifying the Work Element;

6. A plan for implementation of construction and construction oversight identifying the Work Element;

7. An update to the ICIAP, which specifies existing governmental and any proposed informational institutional controls; and

8. A discussion of the manner in which the RA will comply with EPA Region 2's Clean and Green Policy (available at: www.epa.gov/region2/superfund/green_remediation/policy.html).

XII. APPROVAL OF RD REPORTS

B. Each RD Report will be submitted to EPA for review and comment. EPA will either approve the RD Report or otherwise respond pursuant to Section VI.D. (Order – Plans and Reports Requiring EPA Approval) of the Order. Respondents shall make those changes required by EPA's comments in the succeeding drafts of the RD Reports (e.g. changes required by comments on the Preliminary RD Report (65% completion) shall be made in the Pre-Final RD Report (95% completion)).

C. Respondent shall submit the Final RD Report (100% completion) to EPA for review and approval pursuant to Section VI.D. (Order – Plans and Reports Requiring EPA Approval) of the Order.